



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,770	06/23/2003	Shenshen Wu	20002.0324	5720
23517	7590	07/05/2005	EXAMINER	
SWIDLER BERLIN LLP 3000 K STREET, NW BOX IP WASHINGTON, DC 20007			BUTTNER, DAVID J	
			ART UNIT	PAPER NUMBER
			1712	

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/600,770

Applicant(s)

WU, SHENSHEN

Examiner

David Buttner

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 April 2005.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-18 is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1712

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

"low free" in claims 1,2 and 8 is not understood. The examiner cannot find a definition in the specification. The preferred monomer "hexamethylenediisocyanate" has both of its isocyanate groups "free" (ie unreacted).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,3-6 and 9 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wu '974.

Wu discloses golf ball covers of urethanes (abstract). The polyurethane results from a urethane prepolymer and a curing agent (col 4 line 19). The prepolymer can be based on methylene bis(cyclohexylisocyanate) (col 4 line 33). The curing agent can be trimethylol propane (col 4 line 36). Use both simultaneously would be obvious if not considered anticipated.

Claims 1-9 rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ichikawa '189.

Ichikawa discloses polyurethane golf ball covers (abstract). The polyurethane is based on a polyol such as polyoxytetramethyleneglycol (col 3 line 59), hexamethylenediisocyanate (col 3 line 66) and an extender (ie applicant's curing agent) such as ethyleneglycol (col 4 line 6). Although Ichikawa does not teach the polyol and diisocyanate should be pre-reacted to form a prepolymer, the final polyurethane would be expected to be the same whether or not the prepolymer route was taken.

Claims 1-7 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa '189 in view of Wu '673.

Ichikawa does not suggest forming a prepolymer of his polyol and diisocyanate prior to reacting with chain extender.

Wu teaches (col line 23-36) that there are two recognized routes to making polyurethanes – the prepolymer technique and the one shot technique. Wu teaches the prepolymer route provides for better reaction control. It would have been obvious to

Art Unit: 1712

polymerize Ichikawa's polyurethane with a prepolymer technique for the expected advantages.

Claims 1-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa '189 in view of Wu '673 in further view of the Polyurethane Handbook.

The Ichikawa/Wu combination does not suggest dibutyltin dilaurate catalyst.

Dibutyltin dilaurate is a well known catalyst for -NCO /-OH reactions (see Polyurethane Handbook). It would have been obvious to include a catalyst to speed the reaction.

Applicant's arguments filed 4/25/05 have been fully considered but they are not persuasive.

Applicant points to Rosenberg's paragraph 5 to show that "low free isocyanate" is a customary term of art.

Rosenberg actually explains (paragraphs 4-5) the isocyanate functional prepolymer is a reaction product of an excess of diisocyanate with polyol and that the resulting prepolymer has low free monomer (ie low free diisocyanate monomer). All or nearly all of the diisocyanate monomer reacts to form the prepolymer. However, the isocyanate functional prepolymer certainly has "free isocyanate" groups at each end of the prepolymer.

Applicant on the other hand claims "low free isocyanate". Applicant could not intend his prepolymer has little or no isocyanate terminal groups. The examiner has interpreted applicant's claim limitation "prepolymer comprising: at least one saturated isocyanate; at least one saturated polyol" to be describing the two materials co-reacted

Art Unit: 1712

to form the prepolymer. Applicant could not intend that the diisocyanate monomer used to make the prepolymer has a low amount of isocyanate groups, as the monomer has two unreacted isocyanate groups prior to prepolymer formation.

Applicant argues "consisting essentially of" excludes the ionomer of Wu '974 and his necessary alkylating/quaternizing agent.

"Consisting essentially of" only excludes the basic and novel characteristics of applicant's claimed invention. Applicant has the burden of showing the extra ingredient materially changes the characteristics of applicant's invention (MPEP 2111.03).

Furthermore, applicant's specification must be consulted to determine what "consisting essentially of" excludes (In re Herz 190USPQ461). In the instant case, applicant specifically calls for the inclusion of ionomeric urethanes and refers to the Wu '974 patent as a possible source (page 15 line 26-29). Applicant cannot now insist Wu '974's ionomeric urethanes are unsuitable and excluded under "consisting essentially of".

The declaration removes Rosenberg as prior art.

The terminal disclaimer overcomes the obviousness double patenting.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

Art Unit: 1712

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Buttner whose telephone number is 571-272-1084. The examiner can normally be reached on weekdays from 10 to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Buttner

6/27/05

DAVID J. BUTTNER  
PRIMARY EXAMINER

